

February Vocabulary Words

TEST:
March 10, 2016

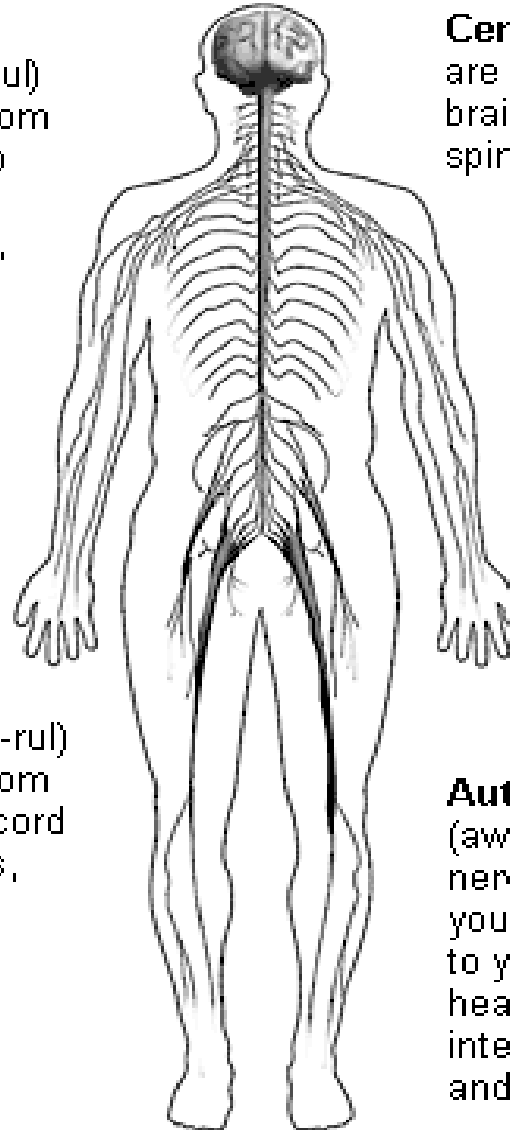


Nervous System

February 11, 2016

A complex, highly organized system that controls the activities of the body and adapts to changes in the environment.

Cranial
(KRAY-nee-uh)
nerves go from your brain to your eyes, mouth, ears, and other parts of your head.



Central nerves are in your brain and spinal cord.

Control the response and movement of the body.

CRANIAL

Peripheral
(puh-RIF-uh-ruhl)
nerves go from your spinal cord to your arms, hands, legs, and feet.

Autonomic
(aw-toh-NOM-ik)
nerves go from your spinal cord to your lungs, heart, stomach, intestines, bladder, and sex organs.

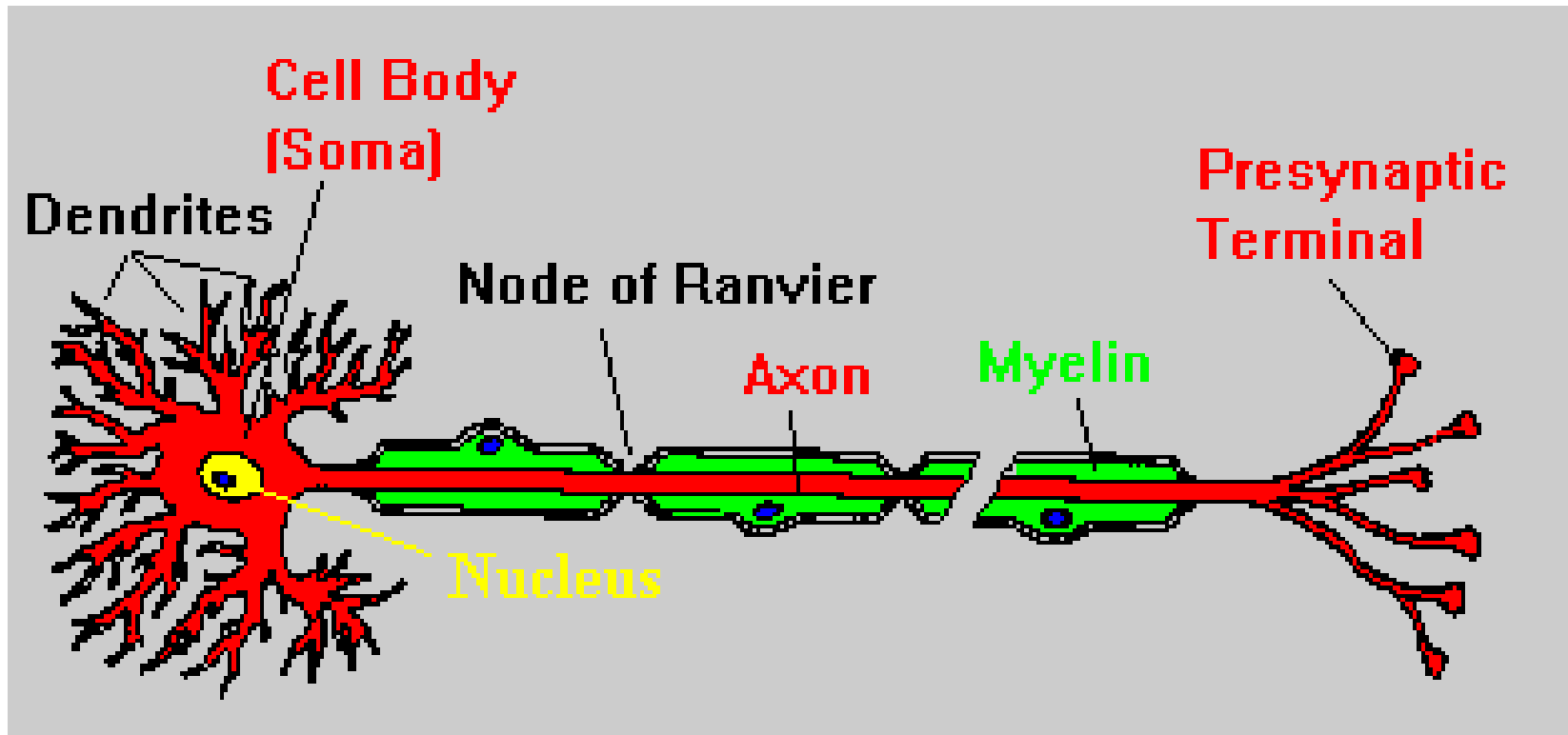
NOMIC

Neuron (nerve cell)

February 12, 2016

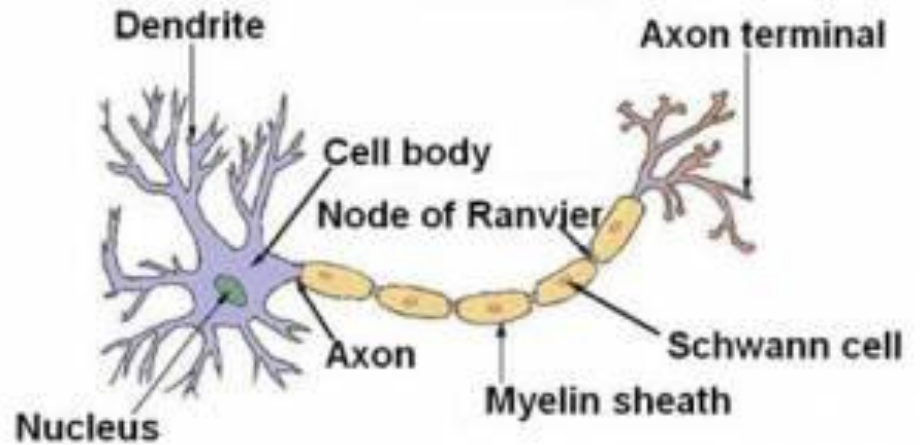
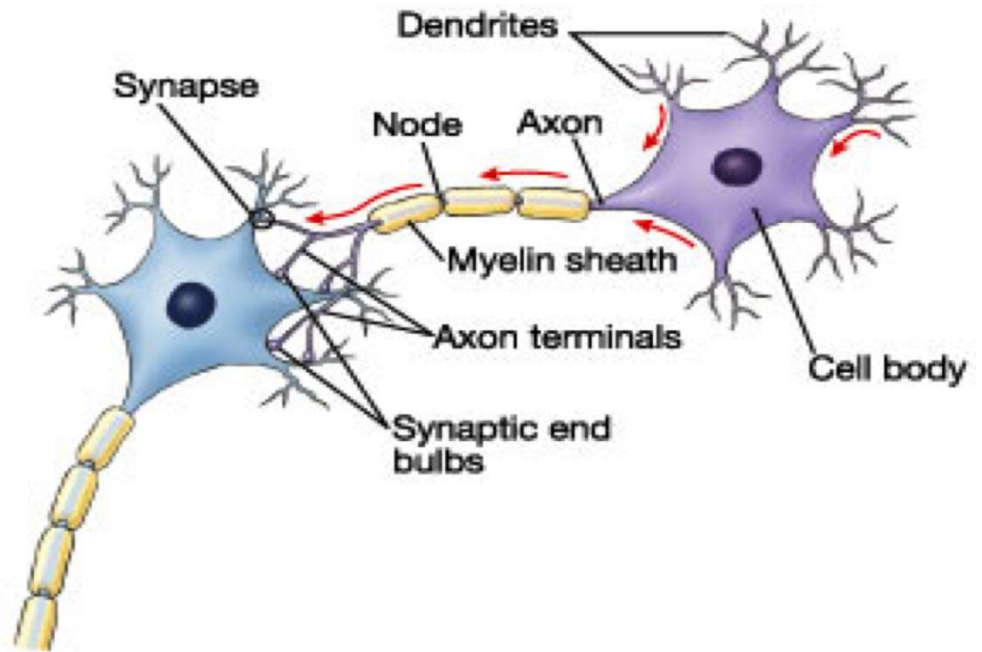
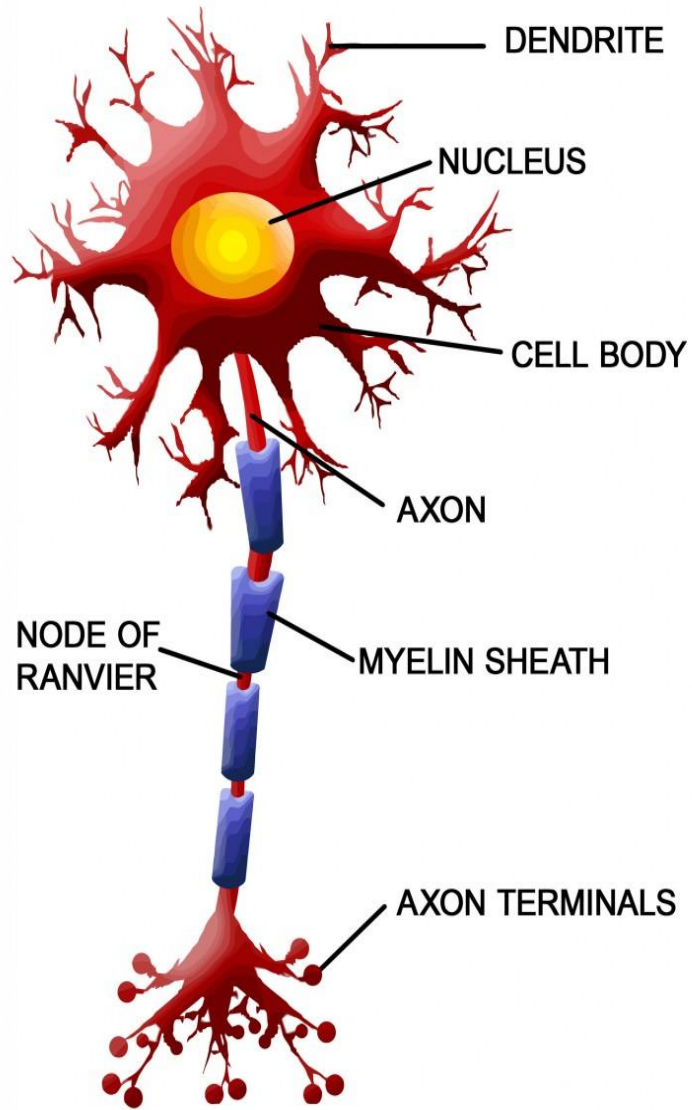
The basic structural unit of the nervous system. Consists of a cell body containing a nucleus, nerve fibers (dendrites), & an axon (single nerve fiber)

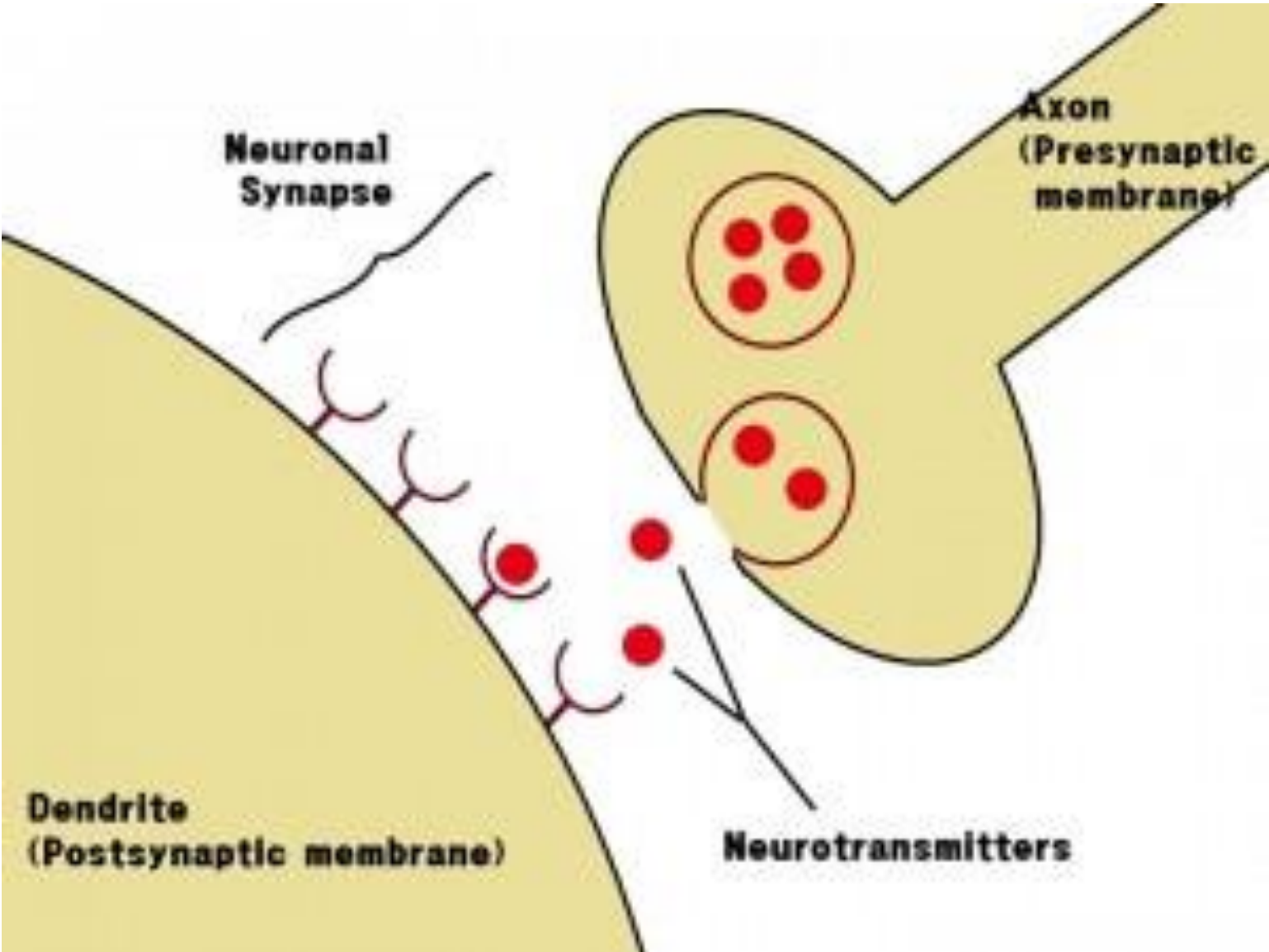
Dendrites – carry impulses toward the cell body.
Axon – carries impulses away from the cell body.
Myelin sheath – (fat covering around the axon) increases the rate of impulse transmission and insulates and maintains the axon.
(The axon of one neuron lies close to the dendrites of many other neurons.)



synapses – the spaces between the axon of one neuron and the dendrites of another neuron.

neurotransmitters – special chemicals located at the end of each axon, allow the nerve impulses to pass from one neuron to another.





Nerves

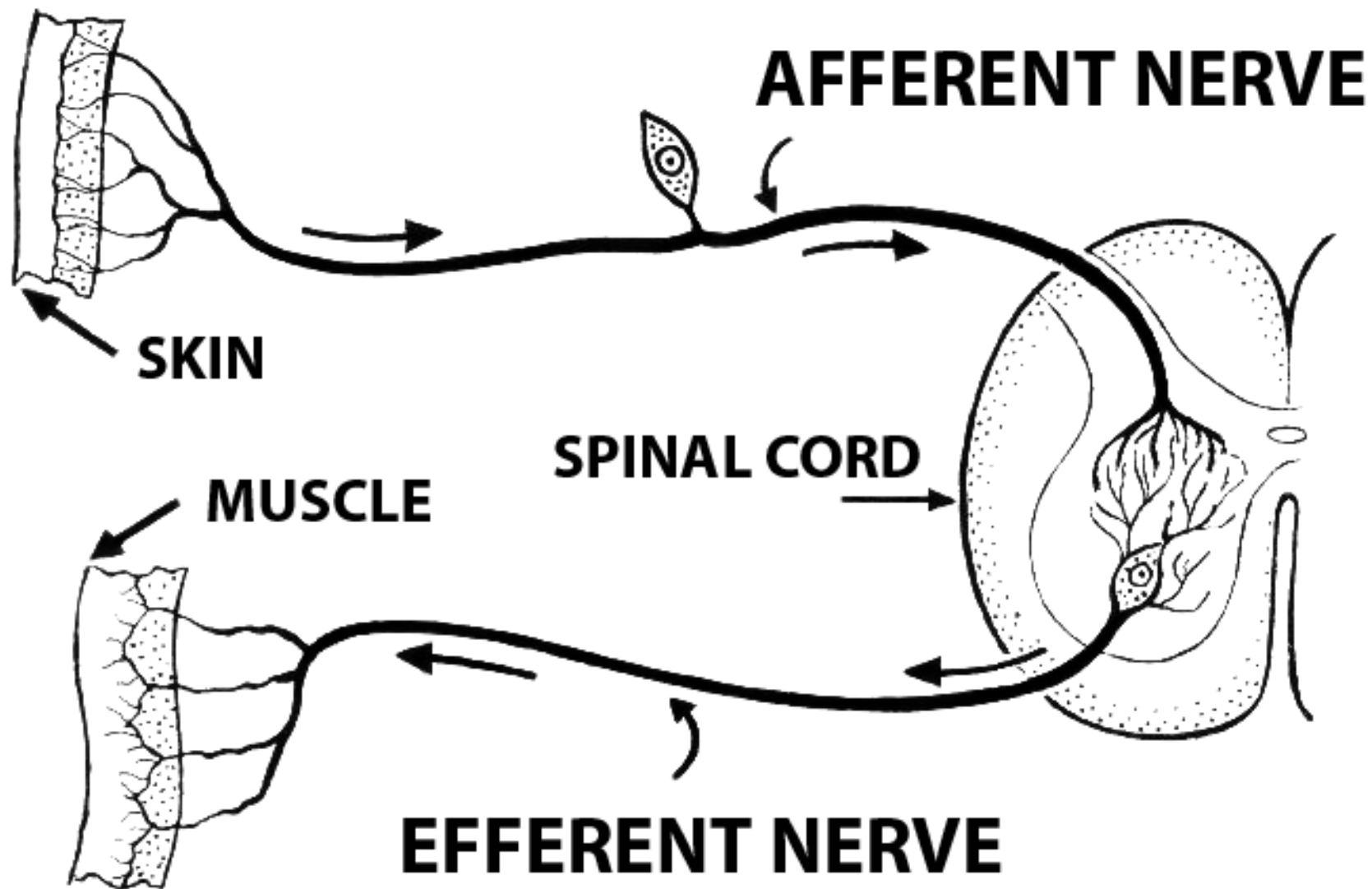
February 22, 2016

Combination of many nerve fibers located outside the brain and spinal cord.

Afferent (sensory) – nerves carry messages from all parts of the body to the brain and spinal cord.

Efferent (motor) – nerves carry messages from the brain and spinal cord to the muscles and glands.

(Associative, or internuncial, nerves carry both sensory and motor messages.)



Nervous System ÷ 2

February 23, 2016

There are two main divisions to the nervous system: the central nervous system and the peripheral nervous system.

CNS – consists of the brain and spinal cord.

PNS – consists of the nerves and has 2 divisions:

- * somatic nervous system – carries messages between the CNS and the body.
- * autonomic nervous system – controls involuntary body functions.

(sympathetic / parasympathetic)

EMERGENCY = fight or flight

Amyotrophic Lateral Sclerosis (ALS)

February 24, 2016

AKA: Lou Gehrig's disease, is a chronic, degenerative neuromuscular disease. Nerve cells in the CNS that control voluntary movement degenerate, resulting in a weakening and atrophy of the muscles they control.

Cause: The cause is unknown, but genetic or viral-immune factors are suspected.

Symptoms: Initial symptoms include muscle weakness, abnormal reflexes, tripping and falling, impaired hand and arm movement, and difficulty in speaking or swallowing.

Progression: As the disease progresses, more muscles are affected, resulting in total body paralysis. In the later stages, the patient loses all ability to communicate, breathe, eat, and move. Mental acuity is unaffected, so an active mind is trapped inside a paralyzed body.

Treatment: No treatment exists, but drugs may slow the progress.

Prognosis: ALS is usually fatal within 4-6 years of symptom onset, but some patients with slower rates have survived 10-20 years after the onset.

<http://www.alsa.org/#>

Carpal Tunnel Syndrome

February 25, 2016

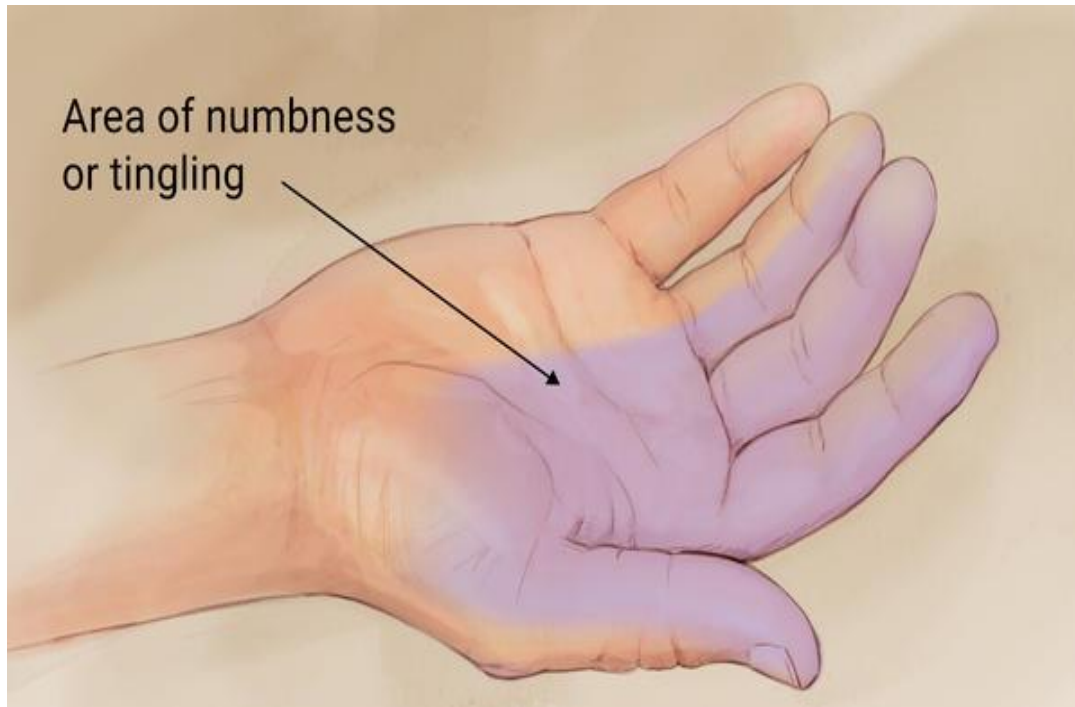
A condition that occurs when the median nerve and tendons that pass through a canal or “tunnel” on their way from the forearm to the hands and fingers are pinched.

Cause: Repetitive movement of the wrist causes swelling around this tunnel, which puts pressure on the nerves and tendons.

Symptoms: pain, muscle weakness in the hand, and impaired movement. Numbness, and tingling in the thumb, ring finger, and middle finger.

Treatment: Initially, it is treated with anti-inflammatory medications and splinting to immobilize the joint.

Prognosis: Severe cases that do not respond to this treatment may require surgery to enlarge the “tunnel” and relieve the pressure on the nerves and tendons.



Area of numbness
or tingling

https://www.youtube.com/watch?v=_J11EIfiHMYw

A numbness and tingling in the hand and arm caused by a pinched nerve in the wrist
Very common

More than 3M US cases per year

Medically treatable

By a doctor or professional

Requires a medical diagnosis

Rarely requires lab tests or imaging

Medium-term

Often resolves within a few months

Wrist anatomy, underlying health conditions, and patterns of hand use can contribute to carpal tunnel syndrome.

Treatment may include rest, ice, wrist splints, cortisone injections, and surgery.

Cerebral Palsy

February 26, 2016

A disturbance in voluntary muscle action caused by brain damage.

3 forms of Cerebral Palsy include: spastic, athetoid, and ataxic.

Cause: lack of oxygen to the brain, birth injuries, prenatal rubella, and infections can all cause cerebral palsy.

Symptoms: Include exaggerated reflexes, tense muscles, contracture development, seizures, speech impairment, spasms, and tremors.

Treatment: Although there is no cure, physical, occupational, and speech therapy are important aspects of treatment.

Prognosis: Muscle relaxants, anticonvulsive drugs, casts, braces, and/or orthopedic surgery (for severe contractures) are also used.

Encephalitis

February 29, 2016

An inflammation of the brain and is caused by a virus, bacterium, chemical agent, or as a complication of measles, chicken pox, or mumps.

Cause: Frequently contracted from a mosquito bite because mosquitoes can carry encephalitis.

Symptoms: Vary but may include fever, extreme weakness or lethargy, visual disturbances, headaches, vomiting, stiff neck and back, disorientation, seizures, and coma.

Treatment: Treatment methods are supportive and include antiviral drugs, maintenance of fluid and electrolyte balance, antiseizure medication, and monitoring of respiratory and kidney function.

<http://nbc4i.com/2015/10/03/ross-county-boy-being-treated-for-encephalitis/>

Epilepsy

March 1, 2016

A brain disorder associated with abnormal electrical impulses in the neurons of the brain.

Cause: Can include brain injury, birth trauma, tumors, toxins (lead or CO), and infections.

• Many cases of epilepsy are idiopathic (spontaneous). *Petit mal* seizures are milder and are characterized by a loss of consciousness lasting several seconds. Common in children and frequently disappear by late adolescence. *Grand mal* seizures are the most severe seizures. They are characterized by a loss of consciousness lasting several minutes.

Symptoms: Convulsions accompanied by violent shaking and thrashing movements; hypersalivation, causing foaming at the mouth; and loss of body functions. Some individuals experience an aura, such as a particular smell, ringing in the ears, visual disturbances, or tingling in the fingers and/or toes just before a seizure occurs.

Treatments: Anticonvulsant drugs are effective in controlling epilepsy.

<http://www.healthguru.com/topic/epilepsy>

Cerebrovascular Accident (CVA)

March 2, 2016

Occurs when the blood flow to the brain is impaired, resulting in a lack of oxygen and a destruction of brain tissue.

AKA: brain attack, stroke, or apoplexy.

Cause: Cerebral hemorrhage resulting from hypertension, and aneurysm, or a weak blood vessel; or by an occlusion, or blockage, caused by atherosclerosis or a thrombus (blood clot) *High risk factors include smoking, high fat diet, obesity, and a sedentary lifestyle.*

Symptoms: Vary depending on the area and amount of brain tissue damaged. Common symptoms of an acute CVA include loss of consciousness, weakness or paralysis on one side of the body (hemiplegia), dizziness, **dysphagia** (difficult swallowing), visual disturbances, mental confusion, **aphasia** (speech and language impairment)

** When a CVA occurs, immediate care during the first 3 hours can help prevent brain damage.*

Treatment: Can be treated with thrombolytic drugs (cannot use clot-busting drugs if CVA was caused by a hemorrhage) or angioplasty of the cerebral arteries which can dissolve a blood clot and restore blood flow to the brain. PT, OT, and Speech are the main forms of treatment.

Hydrocephalus

March 3, 2016

Excessive accumulation of cerebrospinal fluid in the ventricles and, in some cases, the subarachnoid space of the brain.

Cause: Congenital defect, infection, or tumor that obstructs the flow of cerebrospinal fluid out of the brain.

Symptoms: Abnormally enlarged head, prominent forehead, bulging eyes, irritability, and distended scalp veins.

Treatment: Surgical implantation of a shunt (tube) between the ventricles and the veins, heart, or abnormal peritoneal cavity to provide for drainage of the excess fluid.

<http://www.wdtv.com/wdtv.cfm?func=view§ion=5-News&item=Living-With-Hydrocephalus-Samanthas-Story-25479>

Meningitis

March 4, 2016

An inflammation of the meninges of the brain and/or spinal cord.
(Dura mater, Arachnoid, Pia mater)

Cause: Can be caused by bacterium, virus, fungus, or toxin such as lead or arsenic

Symptoms: Include high fever, headaches, back and neck pain and stiffness, nausea and vomiting, delirium, convulsions, and if untreated, coma and death.

Treatment: Include antibiotics, antipyretics (for fever), anticonvulsants, and/or medications for pain and cerebral edema.

<http://www.wsbtv.com/news/news/local/family-speaks-out-after-8-year-old-dies-meningitis/npxRD/>

Multiple Sclerosis (MS)

March 7, 2016

A chronic, progressive, disabling condition resulting from a degeneration of the myelin sheath in the CNS.

It usually occurs between the ages of 20 and 40

Cause: The cause is unknown but genetics or a viral infection of the immune system are suspected. The disease progresses at different rates and has periods of remission.

Symptoms: Early symptoms include visual disturbances such as diplopia (double vision), weakness, fatigue, poor coordination, and tingling and numbness. As the disease progresses, tremors, muscle spasticity, paralysis, speech impairment, emotional swings, and incontinence occur.

Treatment: There is no cure. Methods such as PT, muscle relaxants, steroids, and psychological counseling are used to maintain functional ability as long as possible.

Paralysis

March 8, 2016

A result from a brain or spinal cord injury that destroys neurons and results in a loss of function and sensation below the level of injury.

Hemiplegia, Paraplegia, & Quadriplegia

Cause: Hemiplegia – paralysis on one side of the body and is *caused by a tumor, injury, or CVA*. Paraplegia – paralysis in the lower extremities or lower part of the body and is *caused by a spinal cord injury*. Quadriplegia – paralysis of the arms, legs, and body below the spinal cord injury.

Treatment: Currently , no cure exists, although much research is being directed toward repairing spinal cord damage. Treatment methods are supportive and include PT and OT.

Parkinson's Disease

March 9, 2016

A chronic, progressive condition involving degeneration of brain cells, usually in persons over 50 years of age.

Symptoms: Include tremors, stiffness, muscular rigidity, a forward leaning position, a shuffling gait, difficulty in stopping while walking, loss of facial expression, drooling, mood swings and frequent depression, and behavioral changes.

Treatment: Although no cure exists, a drug called levodopa is used to relieve symptoms. In some cases, surgery can be performed to destroy selectively a small area of the brain and control involuntary movements.

<https://www.youtube.com/watch?v=hu4eTjdlv0>

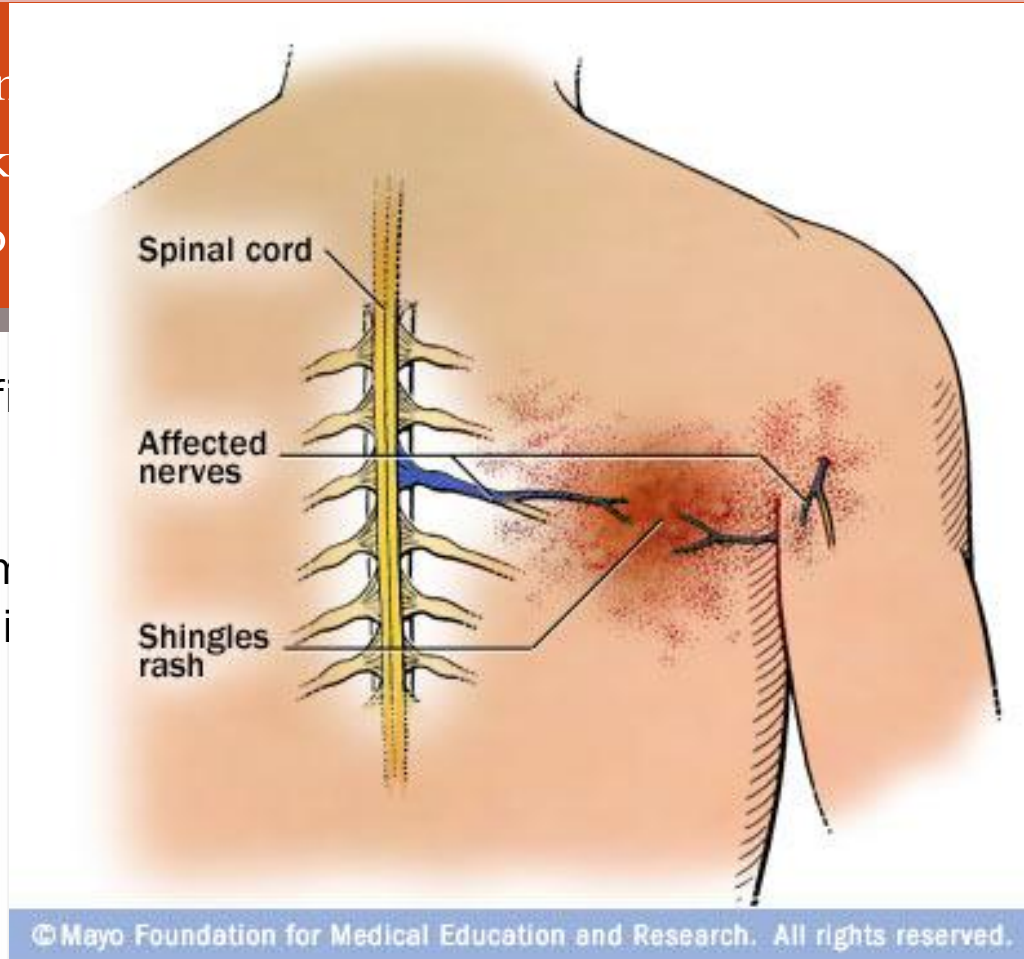
Shingles

March 10, 2016

An acute inflammation
also causes chickenpox
one side of the body.

Symptoms: Fluid-filled blisters, itching, fever, and pain.

Treatment: Treatments help the rash subside, usually in 2-4 weeks.



...es virus, which
...tragic area on
...es.

...evere pain, redness,

...til the inflammation

Hair shaft

Initial stage consists of burning pain and sensitive skin

Weakened immune system reawakens virus

Dormant Varicella virus

Nerve fiber

Skin surface

Blisters develop resembling chicken pox and fill with pus

Blisters eventually burst, crust over and heal

Nerve damage can cause postherpetic neuralgia

